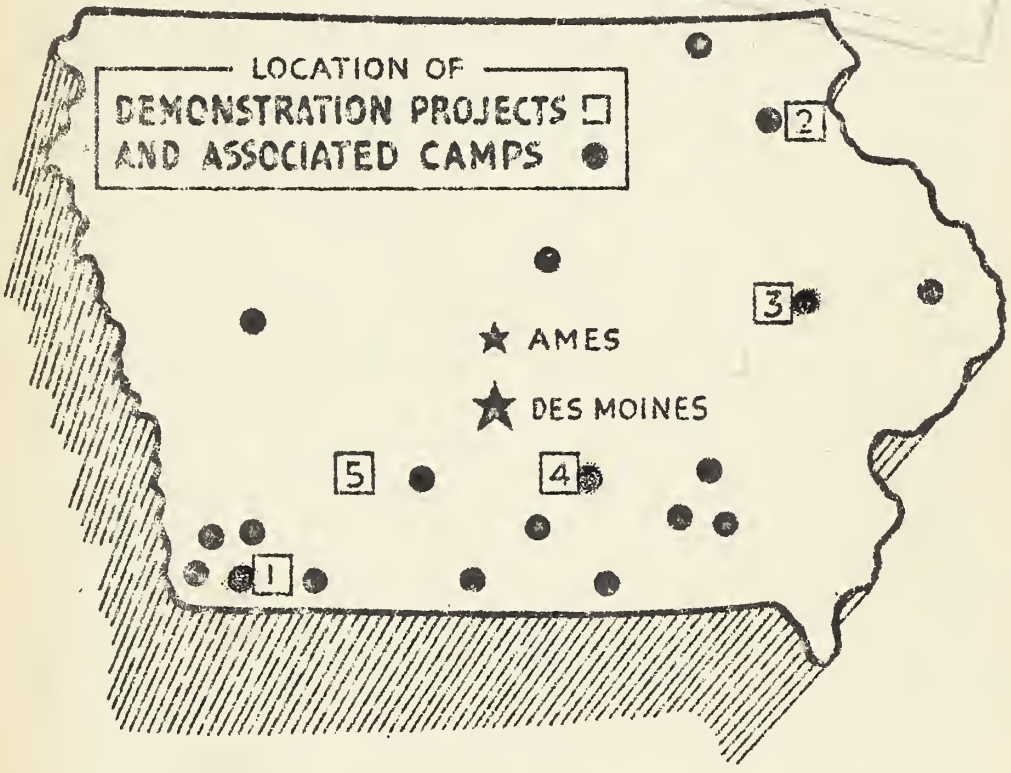
The SOIL CONSERVATION SERVICE COOPERATOR



U.S. DEPT. OF AGRICULTURE
SOIL CONSERVATION SERVICE

R.E. UHLAND – REGIONAL CONSERVATOR
J.L. BOATMAN – STATE COORDINATOR

JULY–AUGUST 1936

The Soil Conservation Service IOWA COOPERATOR is issued occasionally for the benefit of those interested in the erosion control program in Iowa. Its purpose is to serve cooperators and others by giving them the benefit of information regarding methods, which information is gathered from all parts of the state by technicians in the course of their work in furthering the erosion control program.

R. E. Uhland, Regional Conservator
Upper Mississippi Valley Region #5
Illinois, Iowa, Minnesota, Missouri, and Wisconsin
Headquarters, Des Moines, Iowa

J. L. Boatman, State Coordinator
Headquarters, Ames, Iowa

VISIT DEMONSTRATIONS

With 5 demonstration areas well under way and 19 CCC camps working to demonstrate methods of erosion control, Iowa has made rapid strides toward better land use and more complete control of erosion in recent months.

The greatest good will be derived from these projects and camp demonstrations when the greatest number of farmers have visited them and studied the work. Some of the practices are new to this state, but many of them have been developed by progressive Iowa farmers who recognize their erosion problems and are attempting to solve them.

Any farmer will find plenty to interest him on one of these demonstration areas or camp work areas. Do not hesitate to go to the nearest Soil Conservation Service office or camp and ask them to show you the work. They will be glad to do this, and you will be able to gather information at first hand about the erosion control program and the parts of it which can be used to an advantage on your farm.

J. L. Boatman - State Coordinator

COLLEGE CREDIT FOR EROSION CONTROL STUDY

Ames, Iowa - - Thirty agricultural students at Iowa State College have enrolled for an intensive course in erosion control studies which will include field work, such as done by CCC enrollees, class work, and a thesis on some special problem in erosion control. The class work will be under the direction of John B. Peterson, instructor from the college, and field work which will count as the laboratory for the course will be under the supervision of regular SCS-ECW technicians.

The trainees will be stationed at the CCC camp at Knoxville. Their duties while in camp will be the same as for camp enrollees. In addition they will spend two hours daily in class work and the regular number of hours of field work. Research for the thesis will be done in the evenings.

The curriculum includes, 3 days of orientation, 10 days intensive training, 3 days state-wide tour, 22 days practical experience, and 2 days for thesis completion. Those who successfully complete the course will receive 13 quarter hours of college credit toward a degree.

F. S. Parks of the Soil Conservation Service will assist Professor Peterson in the teaching phases of the course and the other Service technicians will be called upon to help with the different parts of the teaching.

(Continued on next page)

The student will have a part in selecting the special problem for his thesis and an attempt will be made to assign subjects of interest to each individual.

It is believed that this type of course, with practical training and experience combined with class work, will give the students the best possible knowledge of the field of soil conservation. The departments of Forestry, Agricultural Engineering, and Agronomy of the College are cooperating with the Soil Conservation Service in this course

TARKIO RIVER PROJECT

MONTGOMERY AND PAGE COUNTIES, IOWA, AND ATCHISON COUNTY, MO.

Shenandoah, Iowa — The Tarkio River project is the oldest Iowa project. It was started in the summer of 1934 and enough work has been done to show clearly the value of nearly every known erosion control practice.

High percentage of the landowners within the project have entered into the program. Many of them have been leaders in developing and applying new erosion control methods to their farms.

The soil of this area is of better than average fertility and the slopes are long and not very steep for the most part. Contour farming is well adapted to the area because of the high capacity of the soil to take moisture. When the rows are run on the contour, little run-off and erosion will result as the moisture sinks into the soil. Contouring has been credited with increasing the yield of crops on this soil by several farmers who have tried it. They believe that the increase in yield is largely due to the extra moisture stored in the soil for use by the crops during a dry period. Operators who have farmed contoured fields for two years are especially favorable to this method of farming because of the saving in horse or tractor power by running on the level and never pulling up hill.

Terracing is an important part of the program on the Tarkio River project. Many farmers are now growing their second crop on terraced land. They all say they like terraces better as they learn to work with them. Landowners are unanimous in their praise of terraces as a practice to reduce erosion.

On much of the Tarkio River area erosion has progressed to the point where gullies have developed. Although gullies are not as numerous as in some parts of the state, gully control has been an important part of the program. Check dams have been used along with trees and grasses to reduce the amount of erosion in gullies.

An increasing number of interested people are visiting the project to see the erosion control work and observe the results being obtained. A day spent going over farms of cooperators shows that erosion can be greatly lessened and that the cooperative agreements are improving farming methods.

It is interesting to note that farmers outside the area and some within the area who did not enter into the program, are beginning to adopt some of the methods. A great deal of approximate contour farming and many grassed waterways are to be seen on such farms. This seems to indicate a trend toward better land management to prevent erosion and produce better crops.

P. C. Miechmann - Project Manager

Recent reports show that 16,500 farms in the United States are now operating under the erosion control program being developed by the Soil Conservation Service. The farms are in demonstration areas where control methods are being applied.

An additional 15,000 farms have made application for the program.

McGREGOR-FARMERSBURG PROJECT

CLAYTON COUNTY

McGregor, Iowa -- Forty farmers and business men took part in an erosion loss observation tour Monday, June 15. They studied the area between Farmersburg and Monona and estimated that about 50 tons of soil per acre had been lost on many corn fields during the recent heavy rains.

One field had, in the judgment of those present, been ruined for further cropping. All agreed that a large portion of it should be retired to permanent sod or to trees as its highest future use.

In discussing control measures, L. F. Wainscott, agronomist on the project, said; "The problems of erosion control are not simple. A coordinated program of physical inventory or soil survey, engineering, agronomy, and forestry, must be applied to most farms. Consideration must be given all these phases to solve the problem."

The losses of soil observed on this tour show that a definite change in farm practices is needed if land is to be productive for any length of time. The experiences of practical farmers and experiment station results show that contour tillage combined with terraces on the more gently rolling land and strips of dense growing crops on the lower slopes is a practical measure for checking soil losses.

The amount of soil lost in the recent two-inch rain was calculated to be greater than one-third of an inch on fields visited, according to the estimates made by Emerson Wolfe, project engineer. At this rate the surface seven inches would be lost in twenty-one years.

According to Dallas Perfect, who has made a detailed soil survey in the project, more than one-half of the area already has lost approximately half of the surface soil.

V. K. Wooster - Project Manager

INDIAN CREEK PROJECT

LINN COUNTY

Cedar Rapids, Iowa - - Gullies are rare in the Indian Creek watershed. The topography is gently rolling and the land is productive where well drained. Sheet erosion is removing enormous quantities of soil, however, as evidenced by comparative profiles of virgin and cropped land made by erosion survey parties.

The engineering phases of the program are important in reducing sheet erosion rather than checking gullies in this area. Terracing, contouring, and similar work is finding a ready welcome among most of the landowners once they understand the purpose of these practices and realize the losses being sustained. The losses from erosion are hard to visualize because all the small rills and gullies are removed from hillsides when farm implements work across the field. The silt fans at the bottom of slopes also easily pass without notice when tilled. Some crops are covered by such silt fans and thus an evidence of erosion is left throughout the season. Due to the almost complete erasure of evidence of erosion, some landowners have been reluctant to adopt soil erosion control methods.

Crop rotations and cropping methods are quite important in the area. Several different rotations are being used in working out cooperative agreements acording to the needs and physical condition of the farm under consideration.

A three-year rotation of corn--small grain, seeded -- clover, is being used by cooperators on the more rolling portions of the area in its northeast and southwest portions. A four-your rotation of corn -- corn -- small grain, seeded -- clover meadow, is being used by cooperators on the more gently rolling areas. In many cases a five-year rotation of

(Continued on next page)

corn -- corn--- small grain, seeded -- meadow -- pasture, is being used due to the fact that little of the land should be retired to permanent pasture but rather should be kept in the rotation with the pasture being furnished by rotation pasture. The experience of farmers in the area and the available experience at this early date in the work program on the project seem to indicate that less soil will be lost under this system of management than under permanent pasture due to the tendency of grasses to die out in dry weather because of their shallow root system.

A six-year rotation of corn -- corn -- small grain, seeded -- and three years of alfalfa is being used both as a rotation in small fields near the building lot and as a rotation to help control weeds where they are a problem.

Lime and fertilizer are needed on much of the land in the area, especially lime. Where lime is used, good clover stands can be expected with other conditions being at all favorable.

Roy E. Bennett - Project Manager

ENGLISH CREEK PROJECT

MARION COUNTY

Knoxville, Iowa -- The English Creek watershed varies in topography from gently rolling to steeply rolling. The soils of the area also vary widely in their physical characteristics and potential productivity. The control of erosion requires the taking into account of these wide differences in working out a farm plan.

Crop rotations are important in erosion control and in maintaining the fertility of the soil. Three-year rotations of corn -- small grain, seeded -- clover, are being used by cooperators on the more gently rolling portions of the area. A four-year rotation of corn -- small grain, seeded -- clover -- clover and timothy, is being recommended on the more rolling areas of crop land. There is some land within the area which does not produce profitable yields when cultivated. This land is quite steeply rolling and very erodible. Such land is being retired to grasses and occasionally, some of it goes into timber.

Terracing plays an important part in preventing sheet and gully erosion on some of the land. A considerable number of gullies have already formed and check dams of several types are being used to help stabilize them. Sod check dams are working satisfactorily so far. Wire check dams with brush aprons and similar dams with wire and brush aprons are being used in some of the gullies.

Lime and fertilizer are important to the soils of this area especially where a rotation including a legume is to be practiced. Cooperators have spread considerable limestone this season where clover seedings are to be in the rotation. Small grain crops and pastures, seem to respond well to fertilizer treatments.

Landowners in the area are generally favorable to the balanced program of the Service and good cooperation is the rule. New cooperators are being added to the list this summer as fast as field men are able to go over farms and work out satisfactory agreements with the owners.

J. A. Benson - Project Manager.

GRAND RIVER PROJECT

ADAIR COUNTY

Greenfield, Iowa--A tour of the area by farmers and business people from Greenfield was made in May. About 100 attended and saw the different phases of the erosion control program on the farms of cooperators. Effective crop rotations, contour tillage, contour strip cropping, establishing

(Continued on next page)

grassed waterways, terracing, tree planting in gullies and reforestation, contour buffer strips, wire check dams, sod flumes, and pasture improvement demonstrations were among the things shown in this tour of the 25,000-acre demonstration area.

It was explained to the group that the reconnaissance erosion survey made by soils men from Iowa State College in cooperation with the Soil Conservation Service showed that more than half of the upland already has lost more that 75 percent of the original surface soil and that an additional fourth of the area has lost more than 50 percent of its topsoil. Evidences of this loss were shown to the group and the two major soil types, Shelby and Tama silt loam, were pointed out and explained.

Fields where cooperators have spread some of the 2,500 tons of agricultural limestone already used in the area were visited. Phosphate fertilizer in addition to the lime has been used on approximately 500 acres which is being seeded to grasses and legumes.

Frank H. Mendell - Project Manager

LOANS FOR SOIL CONSERVATION

Ames, Iowa -- Reports recently made public by Agricultural Conservation Program officials show that Litchfield County, Connecticut, and Sullivan County, New Hampshire, bankers are loaning money to farmers who desire to purchase lime and other materials for soil building practices.

The County Agricultural Conservation Committee will pass on the suitability of the practices which each applicant plans to use. In this way farmers who might not otherwise have been able to buy needed materials to use in soil improvement work will be able to do so and cooperate more fully in the program.

CONTOURING WIDELY USED

Ames, Iowa--- Soil Conservation Service cooperators have agreed to contour strip crop or contour till 14,354 acres of their cultivated land, according to the monthly work progress report submitted by each project manager.

Before the soil erosion control program started, only 166 acres were being cultivated under contour methods on the five Iowa project areas.

Contour strip cropping is to be done on 1,716 acres and contour cultivation will be done on 12,627 acres.

Contour strip cropping helps divide the slope and tends to slow the rush of run-off from the field. The close-growing crops, usually in alternate strips, act as natural filters which catch and hold most of the

(Continued on next page)

soil being carried by the run-off.

Contour tillage or cultivation aids in holding soil and water on the fields because each culvivator, lister or other implement made ridge, acts as a miniature terrace which checks the flow of water down the slope and conducts it at a slow rate to a waterway where it can be safely let down.

Farmers report that they have observed better yields on contoured land than on land where rows run up and down the hill. They attribute this to the fact that more moisture is held in the soil for use by the crops during dry periods.

Another advantage of contouring often mentioned by land operators who use this practice, is the fact that less power is required for the farming operations when all work is done around the slope on the level instead of pulling uphill half the time. They report that this difference is noticeable when using horses or tractors.

COUNTY ASSOCIATIONS ORGANIZED IN IOWA

Ames, Iowa-- County Soil Conservation or soil improvement associations have been organized in every county in Iowa where a Soil Conservation Service camp is located. They are doing various things to further the program of erosion control in their counties.

In addition to these associations Iowa State College Extension Service has cooperated with county governments in organizing four-county associations for soil improvement.

Farmer-members of associations are developing methods for controlling erosion which are adapted to their farms. County extension agents are usually active in the work of these organizations. A number of trips to one of the Soil Conservation Service demonstration areas have been made by members of many associations.

NEW BULLETINS ON EROSION AND ITS CONTROL

"Erosion in Iowa," recently published by Iowa State College and the Soil Conservation Service cooperating, presents the erosion problem in this state and offers some suggestions for its solution. The bulletin reports the reconnaissance erosion survey made by these cooperating agencies and contains several valuable maps and tables of data gathered in the course of the survey.

According to the findings summarized in the bulletin, erosion is a serious problem in much of the state. Only the level bottom lands and the level uplands are escaping. Even the gently rolling uplands, ideal for farming, are losing some soil through sheet erosion. The more rolling areas are eroding badly and in many areas moderate to severe gullying has set in.

County extension agents and Iowa State College have copies of this interesting bulletin for distribution to farmers of the state who desire to know how to control erosion better on their farms.

CEPHALOPOD

The fossil remains of a Cephalopod, shell-forming sea animal, were discovered by WPA workers quarrying limestone rock for pulverizing and use as agricultural limestone on the McGregor- Farmersburg project of the Soil Conservation Service.

The specimen was turned over to the Geological Museum at Iowa State College. Enough of the parts were found to make reconstruction of the animal possible.

The Cephalopod lived in the Ordovician Seas which covered part of Iowa between 480 to 590 million years ago. It was found at an elevation of about 950 feet above present sea level.

LOCUST TREES CHECK PAGE COUNTY GULLY

Shenandoah, Iowa--Black locust trees have been effective in checking a large gully on the F. G. Miller farm northeast of Shenandoah.

For a number of years the gully had gradually grown wider and deeper becoming a menace to farming operations. In 1931 black locust trees were planted along the gully. No dams or other structures were used. The trees were closely placed to assure a thick mat of binding roots that would hold the soil firmly in place.

Today the trees are twelve to fourteen feet tall and have practically controlled the gully. As black locust have the ability to fix nitrogen from the air, being a legume, the vegetation should have an added stimulus and produce more rapid growth in the future.

In addition to checking erosion in the gully, some good fence posts can be harvested from this grove within the next few years.

CLAYTON COUNTY FARMERS VISIT MINNESOTA AREA

McGregor, Iowa-- A group of farmers from Farmersburg, Monona, McGregor, and other points in Clayton County visited the Soil Conservation Service demonstration area at Spring Valley, Minnesota on July 9.

This was the second tour of Clayton County farmers and business men to the Minnesota projec t. The Spring Valley demonstration has been in operation two years and the results of the program are plainly visible.

More than twenty times as much soil is removed from sloping land by erosion as is removed by crops. It requires about 400 years for nature to build an inch of topsoil, this same soil may be removed by one rain.

WILDLIFE CONFERENCE HELD

The Iowa Conservation Commission met with members of the Soil Conservation Service, Wildlife section, June 18 at McGregor, Iowa.

Cooperative relationships were discussed and tentatively agreed upon at this meeting.

Often badly eroded or waste areas can be reclaimed or prevented from further erosion by plantings of vegetation. At the same time these areas can be converted into small wildlife refuges, serving the dual purpose of controlling erosion and conserving the wildlife.

Farmers are finding that a well balanced wildlife population is an asset to a farm. Young quail and partridge will live almost entirely on soft bodied insects for the first several weeks of th ir lives. They eat chinch bugs, small grasshoppers and other pests. Song birds and insectivorous birds of all kinds are valuable in this same way.

The important thing at this season of the year is to protect nests as much as possible. Nests in meadows and hay fields will often be saved if a few square feet is left uncut around them. Waste land, fence corners, woodlots, and fence rows make good wildlife nesting places if they are not burned off or grazed by stock.

Birds and other wildlife make good hunting for the farmer and his friends. They eat many insect pests and prevent their maturing to do damage to crops.

NATIVE GRASSES FOR EROSION CONTROL

About one and a quarter million pounds of native grass seed will be collected this summer by the Soil Conservation Service. The seed is to be used for planting in demonstration areas to help check soil washing or blowing.

U. S. DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Des Moines, Iowa

Official Business

Penalty for Private Use
to avoid payment of
postage - $300.00

Miss C. R. Barnett, Librarian,
U. S. Dept. of Agriculture,
Washington, D. C.